

WE CLAIM:

1. An electrical power management architecture for managing an electrical power distribution system comprising:
 - a secure network;
 - a first power management device coupled with said secure network;
 - an unsecure network;
 - a second power management device coupled with said unsecure network;
 - a firewall coupled between said secure network and said unsecure network and operative to facilitate communications between said secure network and said unsecure network, said firewall further operative to prevent unsolicited communications from said unsecure network to said secure network;
 - said second power management device operative to send at least one unsolicited message to said first power management device, said at least one unsolicited message comprising at least one of a power management command and power management data; and
 - wherein said first power management device is operative to generate a first unsolicited communication to said second power management device and said second power management device is further operative to generate a first solicited communication to said first power management device in response to said first unsolicited communication, said first solicited communication comprising said at least one unsolicited message.
2. The electrical power management architecture of Claim 1 wherein said first power management device comprises at least one of an electric meter, a protection relay, a revenue meter and a pulse counter.
3. The electrical power management architecture of Claim 1 wherein said first power management device comprises a phasor transducer.
4. The electrical power management architecture of Claim 1 wherein said first power management device is operative to of encrypt said at least one unsolicited message.

5. The electrical power management architecture of Claim 1 wherein said first power management device is operative to at least one of decrypt and authenticate said first solicited communication.
6. The electrical power management architecture of Claim 1 wherein said unsolicited message is communicated using at least one protocol selected from the group comprising S-HTTP, HTTPS, SSL, TLS, Microsoft Passport, PKI, Kerberos, X509, and PGP.
7. The electrical power management architecture of Claim 1 wherein said power management command comprises a control command.
8. The electrical power management architecture of Claim 1 wherein said power management data comprises measured data.
9. The electrical power management architecture of Claim 1 wherein said power management data comprises upgrade data.
10. The electrical power management architecture of Claim 1 wherein said power management data comprises power quality data.
11. The electrical power management architecture of Claim 1 wherein said power management command comprises a unit of work request command.
12. The electrical power management architecture of Claim 1 further comprising:
 - a power management application including a first application component operating on said first power management device, said first application component operative to implement a power management function, and a second application component operating on said second power management device, said second application component operative to generate said power management command to control said power management function, said power management command being communicated to said first power management device via said unsolicited message contained in said solicited communication, said first application component being responsive to said power management command.
13. The electrical power management architecture of Claim 12, wherein said first application component is further operative to generate power management data and communicate said power management data to said second power management

device via one of said solicited and unsolicited communication, said second application component being responsive to said power management data.

14. The electrical power management architecture of Claim 1 wherein said at least one first power management device comprises a power management application.
15. The electrical power management architecture of Claim 1 wherein said at least one second power management device comprises a power management application.
16. The electrical power management architecture of Claim 1 wherein at least one of said first solicited and unsolicited communications comprises an XML format.
17. The electrical power management architecture of Claim 1 wherein at least one of said first solicited and unsolicited communications comprises an HTTP format.
18. The electrical power management architecture of Claim 1 wherein at least one of said first solicited and unsolicited communications comprises an HTML format.
19. The electrical power management architecture of Claim 1 wherein at least one of said first solicited communications, said first unsolicited communications and said at least one unsolicited message comprises a SOAP format.
20. The electrical power management architecture of Claim 1 wherein at least one of said first solicited and unsolicited communications comprises a POP3 format.
21. The electrical power management architecture of Claim 1 wherein at least one of said first solicited and unsolicited communications comprises an IMAP format.
22. The electrical power management architecture of Claim 1 wherein at least one of said first solicited and unsolicited communications comprises a wireless binary XML format.
23. The electrical power management architecture of Claim 1 wherein said first unsolicited communication is generated in response to an event detected by said first power management device.
24. The electrical power management architecture of Claim 1 wherein said first unsolicited communication is generated according to a predefined schedule.
25. The electrical power management architecture of Claim 1 further comprising:
 a third network;
 said first power management device further coupled with said third network;

a third power management device coupled to said third network;

said third power management device operative to send at least one second solicited and unsolicited message to said first power management device, said at least one second solicited and unsolicited message comprising at least one of a power management command and power management data.

26. The electrical power management architecture of Claim 1 wherein said first power management device further comprises a network interface operative to couple said first power management device with said secure network and facilitate said communications, initiated by said first power management device, of first power management data through said firewall from the secure network to the unsecure network.
27. The electrical power management architecture of Claim 1 wherein said second power management device comprises an instant message server.
28. An electrical power management architecture for managing an electrical power distribution system comprising:

a first secure network;

a first power management device coupled with said first secure network;

a second secure network;

a second power management device coupled with said second secure network;

an unsecure network;

a third power management device coupled with said unsecure network;

a first firewall coupled between said first secure network and said unsecure network and operative to facilitate communications between said first secure network and said unsecure network, said first firewall further operative to prevent unsolicited communications from said unsecure network to said first secure network,

a second firewall coupled between said second secure network and said unsecure network and operative to facilitate communications between said second secure network and said unsecure network, said second firewall further operative to prevent unsolicited communications from said unsecure network to said second

secure network;

said third power management device operative to receive at least one unsolicited message from said second power management device and send said at least one unsolicited message to said first power management device, said at least one unsolicited message comprising at least one of a power management command and power management data; and

wherein said first power management device is operative to generate a first unsolicited communication to said third power management device and said third power management device is further operative to generate a first solicited communication to said first power management device in response to said first unsolicited communication, said first solicited communication comprising said at least one unsolicited message.

29. The electrical power management architecture of Claim 28 wherein said third power management device is capable of modifying said unsolicited message prior to sending said unsolicited message to said first power management device.
30. The electrical power management architecture of Claim 28 wherein said first power management device comprises at least one of an electric meter ,a protection relay, a revenue meter and a pulse counter.
31. The electrical power management architecture of Claim 28 wherein said first power management device comprises a phasor transducer.
32. The electrical power management architecture of Claim 28 wherein said first power management device is operative to at least one of encrypt, decrypt and authenticate said at least one unsolicited message.
33. The electrical power management architecture of Claim 28 wherein said power management command comprises a control command.
34. The electrical power management architecture of Claim 28 wherein said power management data comprises measured data.
35. The electrical power management architecture of Claim 28 wherein said power management data comprises upgrade data.
36. The electrical power management architecture of Claim 28 wherein said power management data comprises power quality data.

37. The electrical power management architecture of Claim 28 wherein said power management command comprises a unit of work request command.
38. The electrical power management architecture of Claim 28 further comprising:
a power management application including a first application component operating on said first power management device, said first application component operative to implement a power management function, and a second application component operating on said second power management device, said second application component operative to generate said power management command to control said power management function, said power management command being communicated to said first power management device via said at least one unsolicited message, said first application component being responsive to said power management command.
39. The electrical power management architecture of Claim 38, wherein said first application component is further operative to generate power management data and communicate said power management data, via said third power management device, to said second power management device via one of said solicited and unsolicited communication, said second application component being responsive to said power management data.
40. The electrical power management architecture of Claim 28 wherein said at least one first device comprises a power management application.
41. The electrical power management architecture of Claim 28 wherein said at least one second device comprises a power management application.
42. The electrical power management architecture of Claim 28 wherein at least one of said first solicited and unsolicited communications comprises an XML format.
43. The electrical power management architecture of Claim 28 wherein at least one of said first solicited and unsolicited communications comprises an HTTP format.
44. The electrical power management architecture of Claim 28 wherein at least one of said first solicited and unsolicited communications comprises an HTML format.
45. The electrical power management architecture of Claim 28 wherein at least one of said first solicited communication, said first unsolicited communications and said at least one unsolicited message comprises a SOAP format.

46. The electrical power management architecture of Claim 28 wherein at least one of said first solicited and unsolicited communications comprises a POP3 format.
47. The electrical power management architecture of Claim 28 wherein at least one of said first solicited and unsolicited communications comprises an IMAP format.
48. The electrical power management architecture of Claim 28 wherein at least one of said first solicited and unsolicited communications comprises a wireless binary XML format.
49. The electrical power management architecture of Claim 28 wherein said first unsolicited communication is generated in response to an event detected by said first power management device.
50. The electrical power management architecture of Claim 28 wherein said first unsolicited communication is generated according to a predefined schedule.
51. A first power management device, said first power management device being coupled with a secure network and operative to communicate with an unsecure network via a firewall coupled between said secure network and said unsecure network, said firewall operative to facilitate communication between said secure and unsecure networks, said firewall being further operative to prevent unsolicited communications from said unsecure network to said secure network, said first power management device comprising:
 - a network interface operative to couple said first power management device with said secure network; and
 - a communications processor coupled with said network interface and capable of generating a first unsolicited communication to a second power management device coupled with said unsecure network to allow said second power management device to generate a first solicited communication to said first power management device in response to said first unsolicited communication, said first solicited communication comprising at least one unsolicited message, said at least one unsolicited message comprising at least one of a power management command and power management data.
52. The first power management device of Claim 51 further comprising at least one of an electric meter, a protection relay, a revenue meter and a pulse counter.

53. The first power management device of Claim 51 further comprising a phasor transducer.
54. The first power management device of Claim 51 wherein said power management data comprises at least one of a control command, measured data, upgrade data, power quality data and unit of work request command.
55. The first power management device of Claim 51 further comprising:
 - a power management application including a first application component operating on said first power management device, said first application component operative to implement a power management function, and a second application component operating on said second power management device, said second application component operative to generate said power management command to control said power management function, said power management command being communicated to said first power management device via said unsolicited message contained in said solicited communication, said first application component being responsive to said power management command.
56. A first power management device, said first power management device being coupled with an unsecure network and operative to communicate with a secure network via a firewall coupled between said secure network and said unsecure network, said firewall operative to facilitate communication between said secure and unsecure networks, said firewall being further operative to prevent unsolicited communications from said unsecure network to said secure network, said first power management device comprising:
 - a network interface operative to couple said power management device with said unsecure network; and
 - a communications processor coupled with said network interface and capable of generating a first solicited communication to a second power management device coupled with said secure network in response to a first unsolicited communication received from said second power management device, said first solicited communication comprising at least one unsolicited message, said at least one unsolicited message comprising at least one of a power management command and power management data.

57. The first power management device of Claim 56 further comprising at least one of an electric meter, a protection relay, a revenue meter and a pulse counter.
58. The first power management device of Claim 56 further comprising a phasor transducer.
59. The first power management device of Claim 56 wherein said power management data comprises at least one of a control command, measured data, upgrade data, power quality data and unit of work request command.
60. The first power management device of Claim 56 wherein said power management data comprises at least one of a control command, measured data, upgrade data, power quality data and unit of work request command.
61. The first power management device of Claim 56 further comprising:
 - a power management application including a first application component operating on said first power management device, said first application component operative to implement a power management function, and a second application component operating on said second power management device, said second application component operative to generate said power management command to control said power management function, said power management command being communicated to said first power management device via said unsolicited message contained in said solicited communication, said first application component being responsive to said power management command.
62. A method for managing an electrical power distribution system, said method comprising:
 - (a) coupling a first power management device with a secure network;
 - (b) coupling a second power management device with an unsecure network, said unsecure network coupled with said secure network via a firewall, said firewall facilitating communications between said secure network and said unsecure network and preventing unsolicited communications from said unsecure network to said secure network,
 - (c) sending at least one unsolicited message to said first power management device from said second power management device, said at least one unsolicited message comprising at least one of a power management command

and power management data; and

wherein said sending further comprises:

(d) generating a first unsolicited communication to said second power management device by said first power management device; and

(e) generating a first solicited communication to said first power management device by said second power management device in response to said first unsolicited communication, said first solicited communication comprising said at least one unsolicited message.

63. The method of Claim 62 wherein said generating of said first unsolicited communication further comprises encrypting said first unsolicited communication.

64. The method of Claim 62 wherein said generating of said first solicited communication further comprises encrypting said at least one unsolicited message, said method further comprising:

(f) receiving said first solicited communication by said first power management device; and

(g) at least one of decrypting and authenticating said at least one unsolicited message.

65. The method of Claim 62 wherein said generating of said first solicited communication further comprises encrypting said first solicited communication, said method further comprising:

(f) receiving said first solicited communication by said first power management device; and

(g) at least one of decrypting and authenticating said first solicited communication.

66. The method of Claim 62 further comprising generating at least one of said first solicited and unsolicited communications in an XML format.

67. The method of Claim 62 further comprising generating at least one of said first solicited and unsolicited communications in an HTTP format.

68. The method of Claim 62 further comprising generating at least one of said first solicited and unsolicited communications in an HTML format.

69. The method of Claim 62 further comprising generating at least one of said first solicited communication, said first unsolicited communication and said at least one unsolicited message in a SOAP format.
70. The method of Claim 62 further comprising generating at least one of said first solicited and unsolicited communications in a POP3 format.
71. The method of Claim 62 further comprising generating at least one of said first solicited and unsolicited communications in an IMAP format.
72. The method of Claim 62 further comprising generating at least one of said first solicited and unsolicited communications in a wireless binary XML format.
73. The method of Claim 62 further comprising:
 - (f) detecting an event by said first power management device; and
wherein said generating of said first unsolicited communication further comprises generating said first unsolicited communication in response to said detected event.
74. The method of Claim 62 wherein said generating of said first unsolicited communication further comprises generating said first unsolicited communication according to a predefined schedule.
75. A method for managing an electrical power distribution system comprising:
 - (a) coupling a first power management device with a first secure network;
 - (b) coupling a second power management device coupled with a second secure network;
 - (c) coupling a third power management device with an unsecure network, said unsecure network coupled with said first secure network via a first firewall, said first firewall facilitating communications between said first secure network and said unsecure network and preventing unsolicited communications from said unsecure network to said first secure network, said unsecure network coupled with said second secure network via a second firewall, said second firewall facilitating communications between said second secure network and said unsecure network, and preventing unsolicited communications from said unsecure network to said second secure network;

(d) receiving at least one unsolicited message by said third power management device from said second power management device and sending said at least one unsolicited message to said first power management device, said at least one unsolicited message comprising at least one of a power management command and power management data; and

wherein said sending further comprises:

(e) generating a first unsolicited communication by said first power management device to said third power management device;

(f) generating a first solicited communication by said third power management device to said first power management device in response to said first unsolicited communication, said first solicited communication comprising said at least one unsolicited message.

76. The method of Claim 75 wherein said generating of said first unsolicited communication further comprises encrypting said first unsolicited communication.

77. The method of Claim 75 wherein said generating of said first solicited communication further comprises encrypting said at least one unsolicited message, said method further comprising:

(g) receiving said first solicited communication by said first power management device; and

(h) at least one of decrypting and authenticating said at least one unsolicited message.

78. The method of Claim 75 wherein said generating of said first solicited communication further comprises encrypting said first solicited communication, said method further comprising:

(g) receiving said first solicited communication by said first power management device; and

(h) at least one of decrypting and authenticating said first solicited communication.

79. The method of Claim 75 further comprising generating at least one of said first solicited and unsolicited communications in an XML format.

80. The method of Claim 75 further comprising generating at least one of said first solicited and unsolicited communications in an HTTP format.
81. The method of Claim 75 further comprising generating at least one of said first solicited and unsolicited communications in an HTML format.
82. The method of Claim 75 further comprising generating at least one of said first solicited communication, said first unsolicited communications and said at least one unsolicited message in a SOAP format.
83. The method of Claim 75 further comprising generating at least one of said first solicited and unsolicited communications in a POP3 format.
84. The method of Claim 75 further comprising generating at least one of said first solicited and unsolicited communications in an IMAP format.
85. The method of Claim 75 further comprising generating at least one of said first solicited and unsolicited communications in a wireless binary XML format.
86. The method of Claim 75 further comprising:
 - (g) detecting an event by said first power management device; and
 - wherein said generating of said first unsolicited communication further comprises generating said first unsolicited communication in response to said detected event.
87. The method of Claim 75 wherein said generating of said first unsolicited communication further comprises generating said first unsolicited communication according to a predefined schedule.
88. An electrical power management architecture for managing an electrical power distribution system comprising:
 - means for coupling a first power management device with a secure network means;
 - means for coupling a second power management device with an unsecure network means, said unsecure network means coupled with said secure network means via a firewall means, said firewall means comprising means for facilitating communications between said secure network means and said unsecure network means and preventing unsolicited communications from said unsecure network means to said secure network means,

means for sending at least one unsolicited message means to said first power management device from said second power management device, said at least one unsolicited message means comprising at least one of a power management command means and power management data means; and

wherein said sending means further comprises:

means for generating a first unsolicited communication to said second power management device by said first power management device; and

means for generating a first solicited communication to said first power management device by said second power management device in response to said first unsolicited communication, said first solicited communication comprising said at least one unsolicited message means.

89. An electrical power management architecture for managing an electrical power distribution system comprising:

means for coupling a first power management device with a first secure network means;

means for coupling a second power management device coupled with a second secure network means;

means for coupling a third power management device with an unsecure network means, said unsecure network means coupled with said first secure network means via a first firewall means, said first firewall means comprising means for facilitating communications between said first secure network means and said unsecure network means and means for preventing unsolicited communications from said unsecure network means to said first secure network means, said unsecure network means coupled with said second secure network means via a second firewall means, said second firewall means comprising means for facilitating communications between said second secure network means and said unsecure network means, and means for preventing unsolicited communications from said unsecure network means to said second secure network means;

means for receiving at least one unsolicited message by said third power management device from said second power management device and means for

sending said at least one unsolicited message means to said first power management device, said at least one unsolicited message means comprising at least one of a power management command means and power management data means; and

wherein said sending means further comprises:

means for generating a first unsolicited communication by said first power management device to said third power management device;

means for generating a first solicited communication by said third power management device to said first power management device in response to said first unsolicited communication, said first solicited communication comprising said at least one unsolicited message means.

90. A network architecture for managing a data system comprising:

a first secure network;

a first device coupled with said first secure network;

an unsecure network;

a second device coupled with said unsecure network;

a firewall coupled between said first secure network and said unsecure network and operative to facilitate communications between said first secure network and said unsecure network, said firewall further operative to prevent unsolicited communications from said unsecure network to said secure network;

said second device operative to send at least one unsolicited message to said first device, said at least one unsolicited message comprising at least one of a command and data; and

wherein said first device is operative to generate a first unsolicited communication to said second device and said second device is further operative to generate a first solicited communication to said first device in response to said first unsolicited communication, said first solicited communication comprising said at least one unsolicited message.

91. A network architecture for managing a data system comprising:

a first secure network;

a first device coupled with said first secure network;

a second secure network;

a second device coupled with said second secure network;

an unsecure network;

a third device coupled with said unsecure network;

a first firewall coupled between said first secure network and said unsecure network and operative to facilitate communications between said first secure network and said unsecure network, said first firewall further operative to prevent unsolicited communications from said unsecure network to said first secure network,

a second firewall coupled between said second secure network and said unsecure network and operative to facilitate communications between said second secure network and said unsecure network, said second firewall further operative to prevent unsolicited communications from said unsecure network to said second secure network;

said third device operative to receive at least one unsolicited message from said second device and send said at least one unsolicited message to said first device, said at least one unsolicited message comprising at least one of a command and data; and

wherein said first device is operative to generate a first unsolicited communication to said third device and said third device is further operative to generate a first solicited communication to said first device in response to said first unsolicited communication, said first solicited communication comprising said at least one unsolicited message.